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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/467,611	12/20/1999	GEORGE J. MIAO	INTL-0324-US	2610

7590 02/13/2004

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EXAMINER
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NGUYEN, DUNG X

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 02/13/2004

27

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/467,611

Applicant(s)

MIAO ET AL.

Examiner

Dung X Nguyen

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 18 and 20 - 30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26 - 30 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6, 11 - 15, 16 - 18, 20 and 22 is/are rejected.
- 7) ☒ Claim(s) 3, 5, 7 - 10, 21, and 23 - 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 6) ☐ Other: \_\_\_\_\_.

***Response to Arguments***

1. Applicant's arguments filed on November 17, 2003 have been fully considered but are not persuasive, and also are moot to the new ground(s) of rejection.

The problems are both of Palmer et al. and Wilson et al. being not taught or suggested a Global System for Mobile (GSM) communication mode, in addition, Wilson et al. does not teach the step of "selectively using the first and second stages based on the type of detected signal". However, Palmer et al.'s invention involves in communication system, especially in handsets of Mobile phone (units 6, 7 of figure 1). Besides that, Wilson et al.'s involves in the communication system (its abstract), and units 49 and 55 of figure 3 for clearly adapting the first and second stages to the type of the detected signal (column 7, lines 14 – 31). Therefore, a *prima facie* case of obvious is made. Claim 19 has been cancelled.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

3. **Claims 12 – 15 are rejected** under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 12 recites the limitation "said multiplexer" in line 1. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2631

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

5. **Claim 1 is rejected** under 35 U.S.C. 103(a) as being unpatentable over Ali (US patent # 6,590,943 B1).

Regarding claim 1, Ali discloses (figure 1):

- First decimation filter 32 at 2.17 MHz (column 4, lines 26 – 27);
- Second decimation filter 42 coupled to first decimation filter 32 to reduce the signals to 270.83 kHz, the bit rate of Global System for Mobile (GSM) communication mode (column 4, lines 27 – 32).

Ali differs from the instant claimed invention that it does not show the first decimation filter with N bands and the second decimation filter to reject N-1 bands. However, one can see that the first decimation filter 32 at full band 2.17 MHz and the second decimation filter 42 coupled to the first decimation filter to reduce the signals to 270.83 kHz (column 4, lines 26 – 32). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to recognize Ali as to provide the first decimation filter with N bands and the second decimation filter to reject N-1 bands for detailing the action of reduction from full band first decimation filter 32 to reduced second decimation filter 42.

6. **Claims 1 and 11 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Palmer et al. (US patent # 6,295,461 B1).

Regarding claim 1, Palmer et al. discloses (figure 2):

- First filter 24 for reception of wideband signal (column 6, lines 20);
- Second filter 26 for reception of narrowband signal (column 6, line 23).

Palmer et al. differs from the instant claimed invention that it does not state filter 26 for implementing a GSM mode. However, narrowband mode can be implementing for GSM mode for a designed choice. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Palmer et al. to provide filter 26 for implementing a GSM mode for a designed choice.

Regarding claim 11, Palmer et al. differs from the instant claimed invention that it does not state that switch 22 coupled to a multiplex. However, switch 22 is performing the function of a multiplex as selectively controllable depending on the nature of the input signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Palmer et al. to provide switch 22 coupled to a multiplex for selectively controllable depending on the nature of the input signal as a designed choice.

7. **Claims 1, 11, 16, 18, 20, and 22 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (US patent # 5,617,060).

Regarding claim 1, Wilson et al. discloses (figure 3):

- First filter 51 for reception of wideband CDMA signal (column 7, lines 12 - 13);
- Second filter 53 for reception of a FM signal (column 7, line 14).

Wilson et al. differs from the instant claimed invention that it does not state that filter 53 for implementing a GSM mode. However, FM mode can be implementing for GSM mode for a designed choice. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Wilson et al. to provide filter 53 for implementing a GSM mode for a designed choice.

Regarding claim 11, Wilson et al. differs from the instant claimed invention that it does not state that switch 49 coupled to a multiplex. However, switch 49 is performing the function of a multiplex as selectively controllable depending on the nature of the input signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made

Art Unit: 2631

to implement Wilson et al. to provide switch 49 coupled to a multiplex for selectively controllable depending on the nature of the input signal as a designed choice.

Regarding claim 16, Wilson et al. discloses (figure 3):

- First filter 51 for reception of wideband CDMA signal (column 7, lines 12 - 13);
- Second filter 53 for reception of a FM signal (column 7, line 14);
- Detector 49 for detecting the type of signal that has been received (column 7, lines 11 – 14);
- Units 49 and 55 for clearly adapting the first and second stages to the type of the detected signal (column 7, lines 14 – 31).

Wilson et al. differs from the instant claimed invention that it does not show the steps of filter 53 for implementing a GSM mode. However, FM mode can be implementing for GSM mode for a designed choice. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Wilson et al. to provide filter 53 for implementing a GSM mode for a designed choice.

Regarding claim 18, Wilson further discloses that using first stage to receive CDMA mode and second stage to receive FM mode.

Regarding claim 20, Wilson further discloses the using of units 49 and 54 to select filtering input signal depending on whether the input signal is for a FM mode or a CDMA mode.

Regarding claim 22, Wilson et al. differs from the instant claimed invention that it does not state the step of using the same anti-alias analog filter and analog-to-digital converter for both CDMA and FM modes. However, unit 49 is selectively performing the functions of a converter for converting the input signal to a CDMA signal or a FM signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement unit 49 of Wilson et al. to provide the step of using the same anti-alias analog filter and analog-to-digital converter for both CDMA and FM modes for a designed choice.

Art Unit: 2631

8. **Claim 2 is rejected** under 35 U.S.C. 103(a) as being unpatentable over Ali (US patent # 6,590,943 B1), further in view of Treadaway et al. (US patent # 6,480,477 B1).

Regarding claim 2, Ali differs from the instant claimed invention that it does not state the first filter 32 is a square-root-raised-cosine filter. However, Treadaway et al. discloses of using a matched filter square-root-raised-cosine for minimizing inter-symbol interference. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Treadaway et al. into Ali to provide filter 32 being a square-root-raised-cosine filter for minimizing inter-symbol interference.

9. **Claims 2, 4, and 6 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Palmer et al. (US patent # 6,295,461 B1), further in view of Treadaway et al. (US patent # 6,480,477 B1).

Regarding claim 2, Palmer et al. differs from the instant claimed invention that it does not state first filter 24 is a square-root-raised-cosine filter. However, Treadaway et al. discloses of using a matched filter square-root-raised-cosine for minimizing inter-symbol interference. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Treadaway et al. into Palmer et al. to provide filter 24 being a square-root-raised-cosine filter for minimizing inter-symbol interference.

Regarding claim 4, Palmer et al. further discloses controllers 22, 28 that for selecting first filter 24 outputting a CDMA mode (column 6, lines 28 – 33).

Regarding claim 6, Palmer et al. further discloses controllers 22, 28 that selectively for second filter 26 for providing output a narrowband signal and first filter 24 for providing wideband signal (column 6, lines 18 – 33).

10. **Claim 2, 4, and 6 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (US patent # 6,295,461 B1), further in view of Treadaway et al. (US patent # 6,480,477 B1).

Regarding claim 2, Wilson et al. differs from the instant claimed invention that it does not state first filter 24 is a square-root-raised-cosine filter. However, Treadaway et al. discloses of using a matched filter square-root-raised-cosine for minimizing inter-symbol interference. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Treadaway et al. into Wilson et al. to provide filter 51 being a square-root-raised-cosine filter for minimizing inter-symbol interference.

Regarding claim 4, Wilson et al. further discloses controllers 49, 55 that for selecting first filter 51 outputting a CDMA mode (column 7, lines 28 – 33).

Regarding claim 6, Wilson et al. further discloses controllers 49, 55 that selectively for second filter 53 for providing output a FM signal and first filter 51 for providing a CDMA signal (column 6, lines 18 – 33).

Regarding claim 17, the limitations are analyzed in the same manner set forth as claim 2.

***Allowable Subject Matter***

11. **Claims 3, 5, 7 – 10, 21, and 23 – 25 are objected** to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. **Claims 12 - 15 would be allowable** if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.



Art Unit: 2631

13. **Claims 26 – 30 are allowed.** The following is a statement of reasons for the indication of allowable subject matter:

Regarding to the claimed invention, the prior art of record fails to show or render obvious of a dual mode filter for mobile communication substantially implementing two disparate cellular systems such as GSM and W-CDMA. The same transceiver may be utilized to selectively receive and transmit in either of the two systems. Two cascaded digital decimation filters may substitute for one narrow band digital decimation filter in conventional designs. One of the filters is a multi-band digital decimation filter with N bands and the other of the filters is also the decimation filter used to reject the N-1 bands of the system, wherein the coefficients of both of the first and second filters to perform the step of selectively being set to implement either GSM or W-CDMA.

***Contact Information***

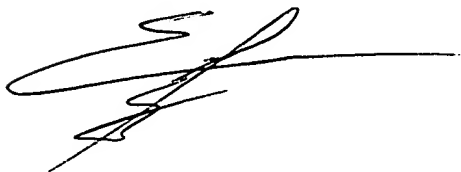
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (703) 305-4892. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Ghayour Mohammad H. can be reached on (703) 306-3034. The fax number for this group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

DXN

November 26, 2003

A handwritten signature in black ink, appearing to be 'DXN', with a long horizontal line extending to the right.